AMENDMENTS TO THE DRAWINGS

Applicants submit herewith a complete set of formal drawings. The attached sheets of drawings includes changes to Figures 6 and 7. Figures 1-5 remain unchanged, but have been made formal. A marked version of original Figures 6 and 7 is also provided, to illustrate changes made thereto.

Attachments: Annotated Sheet Showing Changes (1 sheet- containing Figures 6 and 7)
Replacement Sheets (3 sheets- containing Figures 1-7)

REMARKS

Reconsideration of the above-identified application in view of the preceding amendments and the following remarks is respectfully requested.

Claims 9-15, 17-19 and 21 are pending in the subject application. Claims 1-8 have been canceled without prejudice after withdrawal as being directed to non-elected subject matter. Applicants reserve the right to prosecute the canceled subject matter in a later filed co-pending application. Claims 9, 13 and 15 have been amended. Claims 16 and 20 have been canceled without prejudice.

No new matter has been added to the subject application by this Amendment nor have any new issues been raised. Support for all of the amendments set forth herein is found throughout the written specification and drawings.

Specification

The specification has been amended with respect to Figures 6 and 7 to correct reference numerals, as suggested by the Examiner. Applicants have further made minor amendments in the form of corrections to wording and numbering, in order to improve clarity, and for agreement with the remainder of the specification. No new matter has been added.

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are submitted herewith as required by the Examiner. In addition, Applicant has amended the specification to change the word "cannula" to the word "trocar," with respect to Figs. 6 and 7 and has changed corresponding reference numerals as well, as proposed by the Examiner. The drawings have also

been revised to correct certain reference characters. These clarifications do not add new matter to the subject application.

CLAIM REJECTIONS

Rejection Under 35 U.S.C. §102(b)

In the Office Action, Claims 9-11, 14 and 21 were rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,905,489 to Mantell. Mantell et al. disclose a laparoscopic insertion device in the form of a Verres needle that includes, among other features, a needle cannula 78 having an annular insufflation chamber 74 for supplying gas to the abdominal cavity in a conventional manner and another annular chamber 76 that can be used to simultaneously perform a continuous pressure measurement of the peritoneum to allow for faster insufflation. Mantell et al. further disclose that chamber 76 can be adapted to receive a medical instrument. Mantell et al. note however that in such instances "the stopcock 54 of chamber 76 can be replaced by or used in conjunction with well known rubber seals, injection ports, flap valves and iris valves."

In contrast, the subject invention provided a method of maintaining an operative pneumoperitoneum in a patient undergoing a surgical procedure that includes the steps of introducing a trocar through a portion of an abdominal wall of a patient; introducing a surgical instrument through a lumen in trocar, introducing a pressurized gas from a controlled pressure source into the surgical instrument, and directing the pressurized gas from the surgical instrument into the patient through a passageway between the surgical instrument and a wall of the lumen in the trocar, whereby the pressurized gas from the surgical instrument forms a gas seal around the surgical instrument within the lumen of the trocar, while simultaneously maintaining an operative pneumoperitoneum. The method of Claim 9 further includes the step

of monitoring the pneumoperitoneum of the patient to provide feedback for maintaining the operative pneumoperitoneum.

It is respectfully submitted that Mantel et al. do not disclose or suggest such an operative arrangement. In particular, Mantel et al fail to disclose a method that involves using pressurized gas to form a gaseous seal around a surgical instrument within the lumen of a trocar, while simultaneously maintaining an operative pneumoperitoneum with the pressurized gas. Additionally, Mantel et al. do not disclose a method that includes the step of monitoring the pneumoperitoneum of the patient to provide feedback for maintaining the operative pneumoperitoneum.

Accordingly Claim 9 and dependant Claims 10-11, 14 and 21, are not anticipated by Mantel et al. Withdrawal of the rejection under 35 U.S.C. §102(b) is therefore respectfully requested.

Rejection Under 35 U.S.C. §103(a)

Claim 12 was rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,905,489 to Mantell in view of U.S. Patent No. 6,544,210 to Trudel et al.

As explained above with respect to Claim 9, Mantell et al. do not disclose or suggest a device or method that involves using pressurized gas to form a gaseous seal around a surgical instrument introduced through the lumen of a trocar, while simultaneously maintaining an operative pneumoperitoneum with the pressurized gas, and which also involves monitoring the pneumoperitoneum of the patient to provide feedback for maintaining the operative pneumoperitoneum.

Trudel et al. disclose a smoke clearing device 10 utilized in conjunction with three trocar assemblies 28, 30 and 32. Trocar assembly 28 houses a laser instrument 34. An annular channel

36 within trocar 28 provides a passage for gas drawn out of the patient cavity 24 to the smoke clearing device 10. Trocar assembly 30 has as a channel 49 for a fiber optic camera 38 and the channel also provides an annular inlet passage for insufflation gas from an insufflator 40. Trocar assembly 32 provides a channel 42 for returning filtered gas from the smoke clearing device 10 and it may also serve as a channel for an additional surgical instrument 44. Trudel et al. do not disclose or even remotely suggest that pressurized insufflation gas or even filtered gas from the smoke clearing device can be introduced into the patient cavity 24 through a surgical instrument, such as instrument 44, camera 38 or even laser 34, let alone the step of monitoring pressure within the patient cavity to maintain an operative pneumoperitoneum.

It is respectfully submitted that neither Mantell et al. nor Trudel et al. disclose or suggest, either alone or in combination, in whole or in part, a method as recited in Claim 12 which involves, among other things, using pressurized gas to form a gaseous seal around a surgical instrument within the lumen of a trocar, while simultaneously maintaining an operative pneumoperitoneum with the pressurized gas, monitoring pressure within the patient cavity to maintain an operative pneumoperitoneum, introducing a cannula into an abdominal wall portion of the patient, and introducing at least one operative surgical instrument through the cannula to permit simultaneous operative function with the trocar. Accordingly, the combination of Mantell et al. and Trudel et al. does not render the claimed invention obvious. Withdrawal of the rejection of Claim 12 under 35 U.S.C. §103(a) is therefore respectfully requested.

Claim 13 was rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,905,489 to Mantell in view of U.S. Patent No. 6,544,210 to Trudel et al. and further in view of U.S. Patent No. 4,735,603 to Goodson et al.

As explained above with respect to Claims 9 and 12, Mantell et al. fail to disclose or suggest a method that involves directing pressurized gas into the lumen of a trocar to form a gaseous seal around a surgical instrument introduced through the trocar lumen, while simultaneously maintaining an operative pneumoperitoneum with the pressurized gas, and which also involves monitoring the pneumoperitoneum of the patient to provide feedback for maintaining the operative pneumoperitoneum.

Trudel et al. disclose a smoke clearing device 10 utilized in conjunction with three trocar assemblies 28, 30 and 32. Trudel et al. do not disclose or even remotely suggest that pressurized insufflation gas or even filtered gas from the smoke clearing device can be introduced into the patient cavity 24 through a surgical instrument, let alone the step of monitoring pressure within the patient cavity to maintain an operative pneumoperitoneum.

Goodson et al. also disclose a laser smoke evacuation system for use in laparoscopic surgery that employs standard available laser surgical instruments. For example, Goodson discloses a system that includes a laparoscopic tube 55 for a laser, a laparoscopic tube 60 for inputting gas into a cavity and a laparoscopic tube 61 for the return of gas and smoke.

It s respectfully submitted that neither Mantell et al., Goodson et al. nor Trudel et al. disclose or suggest, either alone or in combination, in whole or in part, a method which includes, among others, the step of directing pressurized gas into a trocar lumen to form a gaseous seal around a surgical instrument within the lumen of the trocar, while simultaneously maintaining an operative pneumoperitoneum with the pressurized gas, monitoring pressure within the patient cavity to maintain an operative pneumoperitoneum. Accordingly, Claim 13 is not rendered obvious by the combination of Mantel et al. in view of Trudel et al. and further in view of

Goodson et al. Withdrawal of the rejection of Claim 13 under 35 U.S.C. §103(a) is therefore respectfully requested.

Claims 15, 17 and 18 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,905,489 to Mantell in view of U.S. Patent No. 4,735,603 to Goodson et al.

As explained above, Mantell et al. fail to disclose or even suggest a method that involves directing pressurized gas from a surgical instrument into a patient through a gas passageway between the instrument and a wall of the trocar lumen, where the pressurized gas forms a gas seal around the surgical instrument within the trocar lumen, while simultaneously maintaining an operative pneumoperitoneum with the pressurized gas, as recited in amended Claim 15.

As noted by the Examiner, Mantel also "does not disclose inserting an additional cannula for monitoring the pressure within the abdomen." (Office Action at p. 7). The Examiner posits that Goodson et al. disclose introducing a cannula into the abdomen at a second site, monitoring gas pressure through the cannula and controlling gas pressure within the abdomen based on feedback from the cannula. Even if this were correct, Goodson et al. do not disclose or suggest that the feedback from the cannula could be used to maintain the pressure within the abdomen using the pressurized gas from the surgical instrument introduced through the trocar. Moreover, Goodson et al. do not disclose monitoring pressure within the patient cavity to maintain an operative pneumoperitoneum with the pressurized gas from a surgical instrument. Accordingly, Claims 15, 17 and 18 are not rendered obvious by the combination of Mantell and Goodson. Withdrawal of the rejection under 35 U.S.C. §103(a) is therefore respectfully requested.

Claim 16 was rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,905,489 to Mantell in view of U.S. Patent No. 4,735,603 to Goodson et al. and further in view of U.S. Patent

No. 6,645,197 to Garrison et al. Claim 16 has been canceled, thus obviating this rejection. Withdrawal thereof is respectfully requested.

Claim 20 was rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,905,489 to Mantell in view of U.S. Patent No. 6,645,197 to Garrison et al. Claim 16 has been canceled, thus obviating this rejection. Withdrawal thereof is respectfully requested.

CONCLUSION

It is respectfully submitted that all of the claims now under consideration in this application, namely Claims 9-15, 17-19 and 21, are directed to patentable subject mater, and allowance thereof is earnestly solicited.

If the Examiner believes that a telephonic or personal interview would resolve any remaining or outstanding matters, the undersigned may be contacted at the telephone number provided below.

Respectfully submitted,

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